## Okada et al. [54] PROLONGED RELEASE MICROCAPSULE AND ITS PRODUCTION [75] Inventors: Hiroaki Okada, Suita; Yasuaki Ogawa, Ibaraki; Takatsuka Yashiki, Takarazuka, all of Japan Takeda Chemical Industries, Ltd., [73] Assignee: Osaka, Japan [21] Appl. No.: 667,096 [22] Filed: Nov. 1, 1984 [30] Foreign Application Priority Data Nov. 4, 1983 [JP] Japan ...... 58-207760 [51] Int. Cl.<sup>4</sup> ...... A61K 9/52; B01J 13/02 [52] U.S. Cl. ...... 424/19; 264/4.6; 424/85; 424/DIG. 15; 428/402.2; 514/2; 514/800; 514/822; 514/963 424/19, 35; 514/963 [56] References Cited U.S. PATENT DOCUMENTS 3,523,906 8/1970 Vrancken et al. ...... 264/4.6

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## [57] ABSTRACT

A microcapsule produced by preparing a water-in-oil emulsion comprising an inner aqueous layer containing said water-soluble drug and a drug retaining substance therefor and an oil layer containing a polymer substance, then thickening or solidifying said inner aqueous layer to a viscosity of not lower than about 5000 centiposes and finally subjecting the resulting emulsion to in water drying gives prolonged release of water-soluble drug.

9 Claims, No Drawings